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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,712	02/18/2004	Shin Fujita	118376	1721
25944	7590	08/08/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			CHEN, WEN YING PATTY	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/779,712	Applicant(s) FUJITA ET AL.	
	Examiner Wen-Ying P. Chen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/22/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 3-9 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 10-13 and 15-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, Species (1) in the reply filed on 7/22/05 is acknowledged. The traversal is on the ground(s) that the subject matter of all species is sufficiently related that a thorough search for the subject matter of any one species would encompass a search for the subject matter of the remaining species. This is not found persuasive because the species contain subject matter in which the location of the spacer and the light-shielding member produce various effects to the display system, therefore are deemed to be patentably distinct from one another.

The requirement is still deemed proper and is therefore made FINAL.

Claims 3-9 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/22/05. Claims 1-2, 10-13 and 15-16 are remaining in the current application under examination.

Drawings

Figure 20 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR

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1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities: The newly amended claim 1 recites in one part “the projecting patterns being formed such that all or part of each of the projecting patterns overlap at least one of the corresponding scanning line, data line, capacitive line, and an area surrounded by at least one of the corresponding scanning line, data line, and capacitive line”, wherein at a later part of the same claim recites “the projecting patterns being formed such that all or part of each of the projecting patterns overlaps the corresponding data line”. The two limitations set forth in claim 1 are contradictory to one another. For the purpose of examination, the claim will be treated as wherein “the projecting patterns being formed such that all or part of each of the projecting patterns overlaps the corresponding data line” in accordance with the further limitations set forth in claim 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Castleberry (US 5576859).

With respect to claim 11: Castleberry discloses in Figures 4 and 5 a liquid crystal panel/electro-optical panel comprising: a first substrate (element 10); a plurality of scanning lines (element Xi) and a plurality of data lines (element Yj) formed on the first substrate; transmissive areas through which light is transmitted and reflective area from which the light is reflected being formed on areas surrounded by the data lines and the scanning lines (Column 4, lines 60-62), wherein the device operates in transfective mode, meaning having regions where light is transmitted and regions where light is reflected); a second substrate (element 23); a first light-shielding layer (element Zij) beneath the second substrate that covers the scanning lines and the data lines; projecting patters (element 20) formed on the first substrate to control the distance between the first substrate and the second substrate, the projecting patterns being formed so as to overlap the first light-shielding layer; electro-optic material filled between the first substrate and the second substrate (Column 5, lines 36-42); second light-shielding layers (element Sij) to prevent light leakage due to the formation of the projecting patters formed so as to overlap the first light-shielding layer and all or part of each of the second light-shielding layers also functions as the first light-shielding layer; and each reflective areas being formed on the downside of the direction of rubbing with respect to the corresponding projecting pattern.

As to claim 15: Castleberry discloses in Figures 4 and 5 a liquid crystal panel/electro-optical panel comprising: a first substrate (element 10); a plurality of scanning lines (element Xi) and a plurality of data lines (element Yj) formed on the first substrate; transmissive areas through which light is transmitted and reflective area from which the light is reflected being

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formed on areas surrounded by the data lines and the scanning lines (Column 4, lines 60-62), wherein the device operates in transfective mode, meaning having regions where light is transmitted and regions where light is reflected); a second substrate (element 23); a first light-shielding layer (element Zij) beneath the second substrate that covers the scanning lines and the data lines; projecting patters (element 20) formed on the first substrate to control the distance between the first substrate and the second substrate, the projecting patterns being formed so as to overlap the first light-shielding layer and are formed on flat areas over the first light-shielding layer; electro-optic material filled between the first substrate and the second substrate (Column 5, lines 36-42); second light-shielding layers (element Sij) to prevent light leakage due to the formation of the projecting patters formed so as to overlap the first light-shielding layer and all or part of each of the second light-shielding layers also functions as the first light-shielding layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 2002/0113936).

With respect to claim 1: Yanagawa et al. disclose in Figures 1 and 2 a liquid crystal panel/electro-optical panel comprising: a first substrate (element 1A); a plurality of scanning lines (element 2) and a plurality of data lines (element 3), and a plurality of capacitive lines (element 4) formed on the first substrate; a second substrate (element 1B); a first light-shielding layer (element BM) beneath the second substrate that covers the scanning lines and the data lines; projecting patterns (element 10) formed on the first substrate to control the distance between the first substrate and the second substrate, the projecting patterns being formed so as to overlap the corresponding data line.

Figure 1 and 2 did not show a second light-shielding layer.

However, in Figure 21 Yanagawa et al. teach that second light-shielding layers (element 50) are formed to prevent light leakage due to the formation of the projecting patterns formed so

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as to overlap the first light-shielding layer and all or part of each of the second light-shielding layers also functions as the first light-shielding layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Yanagawa et al. in Figures 1 and 2 wherein the second light-shielding layer is added to the invention as in Figure 21, since Yanagawa et al. teach that the second light-shielding layer helps to improve the aperture ration of the pixels (Paragraph 0127).

As to claim 2: Yanagawa et al. disclose in Figure 1 that the center of the projecting pattern (element 10) is formed on the corresponding data line (element 3).

As to claim 10: Yanagawa et al. disclose in Figure 21 that the second light-shielding layers being provided on the downside of the direction of rubbing on the first light-shielding layer.

As to claim 16: Yanagawa et al. disclose in Paragraph 0004 that the liquid crystal display panel is used as display terminals of OA equipments.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Castleberry (US 5576859) in view of Kajita et al. (US 6275280).

Castleberry discloses in Figures 4 and 5 a liquid crystal panel/electro-optical panel comprising: a first substrate (element 10); a plurality of scanning lines (element Xi) and a plurality of data lines (element Yj) formed on the first substrate; transmissive areas through which light is transmitted and reflective area from which the light is reflected being formed on areas surrounded by the data lines and the scanning lines (Column 4, lines 60-62), wherein the

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device operates in transfective mode, meaning having regions where light is transmitted and regions where light is reflected); a second substrate (element 23); a first light-shielding layer (element Zij) beneath the second substrate that covers the scanning lines and the data lines; projecting patters (element 20) formed on the first substrate to control the distance between the first substrate and the second substrate, the projecting patterns being formed so as to overlap the first light-shielding layer; electro-optic material filled between the first substrate and the second substrate (Column 5, lines 36-42); second light-shielding layers (element Sij) to prevent light leakage due to the formation of the projecting patters formed so as to overlap the first light-shielding layer and all or part of each of the second light-shielding layers also functions as the first light-shielding layer.

Castleberry lacks to specifically disclose a color filter layer including blue color filters.

However, Kajita et al. disclose in Figure 6 a liquid crystal display device comprising of color filters, which includes blue color filters (element 3) formed on the downside of the direction of rubbing with respect to the corresponding projecting pattern (element 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Castleberry wherein the display panel comprises of color filters including blue color filters, since Kajita et al. teach that blue is one of the three primary colors that can be employed as the color filter so that various shades of color can be produced by mixtures of the blue color filter and the other two primary colors (Column 14, lines 21-25).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Castleberry (US 5576859) in view of Kajita et al. (US 6275280) further in view of Ota et al. (JP 2002-341329).

Castleberry discloses in Figures 4 and 5 a liquid crystal panel/electro-optical panel comprising: a first substrate (element 10); a plurality of scanning lines (element Xi) and a plurality of data lines (element Yj) formed on the first substrate; transmissive areas through which light is transmitted and reflective area from which the light is reflected being formed on areas surrounded by the data lines and the scanning lines (Column 4, lines 60-62), wherein the device operates in transfective mode, meaning having regions where light is transmitted and regions where light is reflected); a second substrate (element 23); a first light-shielding layer (element Zij) beneath the second substrate that covers the scanning lines and the data lines; projecting patters (element 20) formed on the first substrate to control the distance between the first substrate and the second substrate, the projecting patterns being formed so as to overlap the first light-shielding layer; electro-optic material filled between the first substrate and the second substrate (Column 5, lines 36-42); second light-shielding layers (element Sij) to prevent light leakage due to the formation of the projecting patters formed so as to overlap the first light-shielding layer and all or part of each of the second light-shielding layers also functions as the first light-shielding layer.

Castleberry lacks to specifically disclose a color filter layer including blue color filters or the forming of third light-shielding layers.

However, Kajita et al. disclose in Figure 7 a liquid crystal display device comprising of color filters (elements 3-5) formed beneath the second substrate; and Ota et al. disclose in Figure

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1 a liquid crystal display device comprising of third light-shielding layers (element 6c) formed so that the color filters having the same color have apertures with the same area.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Castleberry wherein the display panel comprises of color filters as taught by Kajita et al. and third light-shielding layers as taught by Ota et al., since Kajita et al. teach that the color filters consist of the three primary colors so that various shades of color can be produced (Column 14, lines 21-25); and Ota et al. teach that by forming of the third light-shielding layers thus improve the aperture so that the display device have better image quality and higher luminance (Paragraph 0018 and Abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Ying P. Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.

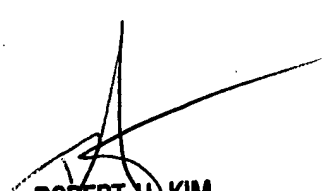
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Ying P Chen
Examiner
Art Unit 2871

WPC
8/02/05



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